

WHAT IS CLAIMED IS:

1. A method for preparing a drug-lipid complex, comprising dispersing a drug and one or more phospholipids in an aqueous solution to obtain a mixture, in which the molar ratio between the drug and the lipids ranges from 1:9 to 9:1; and grinding the mixture with a mechanic means to obtain a drug-lipid complex that does not have a captured volume.
2. The method of claim 1, wherein the phospholipids are dimyristoylphosphatidylcholine and dimyristoylphosphatidylglycerol.
3. The method of claim 2, wherein the molar ratio between the drug and the lipids ranges from 1:3 to 3:1.
4. The method of claim 3, wherein the molar ratio between the drug and the lipids ranges from 2:3 to 3:2.
5. The method of claim 4, wherein the drug-lipid complex has a particle size of 60-6,000 nm.
6. The method of claim 5, wherein the drug-lipid complex has a particle size of 250-3,000 nm.
7. The method of claim 5, wherein the drug has a water solubility less than 10 mg/mL.
8. The method of claim 7, wherein the drug is amphotericin B, doxorubicin, taxol, or irinotecan.
9. The method of claim 8, wherein the molar ratio between dimyristoylphosphatidylcholine and dimyristoylphosphatidylglycerol ranges from 4:1 to 2:1.

10. The method of claim 1, wherein the molar ratio between the drug and the lipids ranges from 1:3 to 3:1.

11. The method of claim 10, wherein the molar ratio between the drug and the lipids ranges from 2:3 to 3:2.

12. The method of claim 1, wherein the drug-lipid complex has a particle size of 60-6,000 nm.

13. The method of claim 12, wherein the drug-lipid complex has a particle size of 250-3,000 nm.

14. The method of claim 1, wherein the drug has a water solubility less than 10 mg/mL.

15. The method of claim 14, wherein the drug is amphotericin B, doxorubicin, taxol, or irinotecan.

16. The method of claim 1, wherein the mechanic means is a dispersion mill.

17. The method of claim 16, wherein the dispersion mill is a ball mill.

18. The method of claim 17, wherein the phospholipids are dimyristoylphosphatidylcholine and dimyristoylphosphatidylglycerol.

19. The method of claim 18, wherein the molar ratio between the drug and the lipids ranges from 1:3 to 3:1.

20. The method of claim 19, wherein the molar ratio between the drug and the lipids ranges from 2:3 to 3:2.

21. The method of claim 20, wherein the drug-lipid complex has a particle size of 60-6,000 nm.

22. The method of claim 21, wherein the drug-lipid complex has a particle size of 250-3,000 nm.

23. The method of claim 21, wherein the drug has a water solubility less than 10 mg/mL.

24. The method of claim 23, wherein the drug is amphotericin B, doxorubicin, taxol, or irinotecan.

25. The method of claim 24, wherein the molar ratio between dimyristoylphosphatidylcholine and dimyristoylphosphatidylglycerol ranges from 4:1 to 2:1.

26. The method of claim 16, wherein the molar ratio between the drug and the lipids ranges from 1:3 to 3:1.

27. The method of claim 26, wherein the molar ratio between the drug and the lipids ranges from 2:3 to 3:2.

28. The method of claim 16, wherein the drug-lipid complex has a particle size of 60-6,000 nm.

29. The method of claim 28, wherein the drug-lipid complex has a particle size of 250-3,000 nm.

30. The method of claim 16, wherein the drug has a water solubility less than 10 mg/mL.

31. The method of claim 30, wherein the drug is amphotericin B, doxorubicin, taxol, or irinotecan.

32. A method for preparing a drug-containing liposome, comprising dispersing a drug and one or more phospholipids in an aqueous solution to obtain a mixture, in which the molar ratio between the drug and the lipids ranges from 1:99 to 1:9; and

grinding the mixture with a mechanic means to obtain a drug-containing liposome.

33. The method of claim 32, wherein the phospholipids are egg phosphatidylcholine and egg phosphatidylglycerol.

34. The method of claim 33, further comprises dispersing a stabilizer in the aqueous solution.

35. The method of claim 34, wherein the drug-containing liposome has a particle size of 60-1,500 nm.

36. The method of claim 35, wherein the drug-containing liposome has a particle size of 60-600 nm.

37. The method of claim 35, wherein the drug has a water solubility less than 10 mg/mL.

38. The method of claim 37, wherein the drug is amphotericin B, doxorubicin, taxol, or irinotecan.

39. The method of claim 38, wherein the molar ratio between egg phosphatidylcholine and egg phosphatidylglycerol ranges from 4:1 to 2:1.

40. The method of claim 32, wherein the drug-containing liposome has a particle size of 60-1,500 nm.

41. The method of claim 40, wherein the drug-containing liposome has a particle size of 60-600 nm.

42. The method of claim 32, wherein the drug has a water solubility less than 10 mg/mL.

43. The method of claim 42, wherein the drug is amphotericin B, doxorubicin, taxol, or irinotecan.

44. The method of claim 32, wherein the mechanic means is a dispersion mill.

45. The method of claim 44, wherein the dispersion mill is a ball mill.

46. The method of claim 45, wherein the phospholipids are egg phosphatidylcholine and egg phosphatidylglycerol.

47. The method of claim 46, further comprises dispersing a stabilizer in the aqueous solution.

48. The method of claim 47, wherein the drug-containing liposome has a particle size of 60-1,500 nm.

49. The method of claim 48, wherein the drug-containing liposome has a particle size of 60-600 nm.

50. The method of claim 48, wherein the drug has a water solubility less than 10 mg/mL.

51. The method of claim 50, wherein the drug is amphotericin B, doxorubicin, taxol, or irinotecan.

52. The method of claim 51, wherein the molar ratio between egg phosphatidylcholine and egg phosphatidylglycerol ranges from 4:1 to 2:1.

53. The method of claim 44, wherein the drug-containing liposome has a particle size of 60-1,500 nm.

54. The method of claim 53, wherein the drug-containing liposome has a particle size of 60-600 nm.

55. The method of claim 44, wherein the drug has a water solubility less than 10 mg/mL.

56. The method of claim 55, wherein the drug is amphotericin B, doxorubicin, taxol, or irinotecan.